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Quels bénéfices la solution de post-traitement Olea Sphere® vous apporte-t-elle dans votre spécialité ?

"The current version of Olea Sphere® (3.0 SP3) encompasses several additive modules for in-depth contrast-enhanced and non-contrast perfusion analysis that may provide complementary information about the pathologically altered vasculature in the most relevant disorders of the human brain.

Beyond tissue at risk estimation in acute stroke and separation of the ischemic penumbra from benign oligemia, regional perfusion analysis is frequently employed in patients with vasospasms after subarachnoidal hemorrhage in order to identify critically ill-perfused tissue with cortical TTP asymmetries exceeding 2 sec.

It may further aid to the differential diagnosis of other causes of regional hyperperfusion (e.g non-convulsive status epilepticus or infections) and hypoperfusion (e.g. postictal conditions or spreading depression in migraine).

The quantitative and qualitative perfusion analysis including regional histogramm and multiparametric permeability analyses offer complementary information on the intrinisic properties of brain tumor in order to narrow down the differential diagnosis of brain tumors. The further may accomplish the diagnostic attempts in separating a recurrent tumor and therapy-associated tissue changes. e.g. after radiation and /or chemotherapy.

> "Olea Sphere® modules can be intuitively handled, so you can opt for additional quantitative analysis beyond pure imaging interpretations..."

Beyond DSC and DCE perfusion MRI, the ASL plug-in allows adaptive quantitative blood flow computation that can be employed in patients with contraindications to Gadolinium applications in stroke and brain tumors and offers a great potential in identifying regional patterns of hyperperfusion related to reduced metabolic activity in neurodegenerative disorders. Finally, the DTI plug-in computes parametric maps of color-coded fiber tract direction maps and diffusion parameters and applies to the reconstruction of axonal tracts.

The latter is a prerequisite, together with the newly developed fMRI plug in, to peroperatively assess the functional and anatomical location and integrity of eloquent brain areas and their structurally connected white matter tracts in brain tumors, epilepsy surgery and other disorders, where knowledge about tractography and BOLD activations is essential for preservation of brain function.

Overall, the modules are intuitively to be handeled, opt for additional quantitative analysis beyond pure imaging interpretations and can be run safely and stable within a clinical environment of Olea Sphere® 3.0 computation speed, visualization, modularity and transfer into the PACS system makes it a valuable tool to provide converging evidence and guidance of decision making in various fields of clinical neuroimaging."